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Kotlow

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(54) **METHOD FOR DETERMINING A TURBINE PUMP RPM PROFILE**

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(58) **Field of Search** 702/86, 114, 145, 702/147; 416/30, 61; 417/63, 42; 415/118

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(57) **ABSTRACT**

A method is provided to determine an rpm profile for a turbine pump from pulse train data obtained from a sensor at the pump. The method eliminates ramp-up spikes from the pulse train by comparing the spike pulse count to the surrounding pulse counts and replacing data points responsible for abnormal pulse count increases/decreases between data points with interpolated values. The method similarly replaces data points that lie outside statistically acceptable pulse rate variations. A rough rpm plot is then generated, which must be smoothed to obtain the final rpm profile. Data points are infused between sensor data points to achieve an acquisition rate of approximately 1000 points per second. The infusion is accomplished by interpolating between sensor data points and equally spacing the infused data points along the interpolated curve. A smoothing function is then applied to the infused data set.

8 Claims, 1 Drawing Sheet